

Physiology of Overexpressor G482, Family CAAT

Mendel Biotechnology, Inc.

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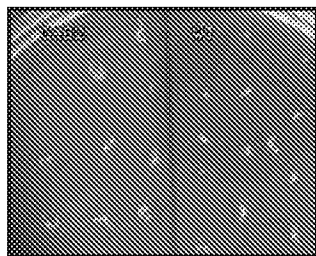
Summary: Plants overexpressing G482 show slightly increased seedling growth when germinated on high salt.

Line	6,8,12	Generation	T2
Response Categories			
Drought	wt	NaCl	+
Osmotic	wt	Temperature	wt
Light	wt	Oxidative	wt
Aluminum	n/a	Morphology	wt
Nutrient Uptake	wt	Growth Regulator	wt
Disease	wt	Herbicide	wt

<i>P. syringae</i>	wt
<i>E. orontii</i>	wt
<i>S. sclerotiorum</i>	n/a
<i>B. cinerea</i>	n/a
<i>F. oxysporum</i>	wt

Response	Assay	Description	Details
NaCl	Germination	NaCl	Better germination on high salt
NaCl	Germination	NaCl	Repeat experiment - Better germination on NaCl

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OE G482 (lines 6, 8, and 12) vs. wild-type control on NaCl (germination assay)

All experiments using overexpressor lines were performed on unselected plants. All phenotypes for the overexpressors will be segregating for wild-type.

Scoring summary: (++) More growth compared to wild-type controls with a high level of confidence. The phenotype was consistent and growth was significantly above the normal levels of variability observed for that assay. (+) More growth compared to wild-type controls. The response is consistent but only slightly above the normal levels of variability observed for that assay. (wt) No detectable difference from wild-type controls. (-) Less growth compared to wild-type controls and a lower level of confidence. Although the response is consistent, the phenotype is only slightly below the normal levels of variability observed for that assay. (--) Less growth compared to wild-type controls with a high level of confidence. The phenotype was consistent and growth was significantly below the normal levels of variability observed for that assay.

For a detailed description of physiological assays please refer to the description in the Mendel Assays section of the data package. The following experiments were performed on all lines within each Response Category: Drought = seedling growth assay following severe water deprivation / Osmotic = germination assay and seedling root growth assay on Mannitol 300mM (November 1999 and April 2000 data releases only), PEG 10 (Data releases beginning April 2000) / Light = germination assay in dark / Disease = seedling survival assay on plates for Fusarium oxysporum, soil assays for Pseudomonas syringae (November 1999 data release only), Erysiphe orontii (November 1999 and April 2000 data releases only), Botrytis cinerea (April 2000 and August 2000 data releases only), Sclerotinia sclerotiorum (August 2000 data release only) / Nutrient Uptake = root growth assays on N-limiting, K-free (November 1999 data release only), P-free media / Morphology = general appearance in culture, UV auto-fluorescence, as well as root growth / NaCl = germination assay and root growth assay on 150 mM (OE) or 125 mM (KO) / Temperature = germination assay and seedling growth assay for heat (32C) and chilling (8) / Oxidative = seedling survival assay on rose bengal containing media (400 uM) / Herbicide = seedling survival assay on glyphosate (0.0285%), and acifluorfen (100 uM) / Growth Regulator = root growth assays for IAA (10 uM), MeJ (10 uM), ABA (100 uM); germination assay for ACC or ethylene (1 mM) and sugar sensing (5% glucose, 9.4% sucrose)/ Aluminum tolerance (0.75 mM AlCl3, pH 4.2)

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